

a) Amendments to the Claims

1. (*Currently Amended*) A batch-melted, ~~high-silver~~ high ionic silver, borosilicate glass essentially free of metallic silver.

2. (*Original*) The batch-melted high silver glass according to claim 1 wherein the concentration of monovalent ions other than silver does not exceed 2 cation percent.

3. (*Original*) The batch-melted, high-silver glass according to claim 1, comprising high field strength ions.

ai 4. (*Original*) The batch-melted, high-silver glass according to claim 3, wherein the high field strength ions are selected from the group consisting of aluminum, zirconium and tantalum.

5. (*Original*) The batch-melted, high-silver glass according to claim 4, wherein the high field strength ions comprise aluminum.

6. (*Original*) The batch-melted, high-silver glass according to claim 5, further comprising zirconia and/or tantalum.

7. (*Original*) The batch-melted, high-silver glass according to claim 6, characterized in that the ratio of aluminum to zircon is at least 3:1.

8. (*Original*) The melt- formed high silver glass according to claim 6, characterized in that the ratio of tantalum to alumina does not exceed 1:2.

9. (*Original*) The batch-melted, high-silver glass according to claim 3, characterized in that the ratio of high field strength ions to monovalent ions is at least 1.

10. (*Original*) The batch-melted, high silver glass according to claim 9, wherein the silver concentration is at least 8 cation percent.

11. (*Currently Amended*) A transparent, borosilicate glass produced by melting a batch containing a high concentration of silver, said glass having a high refractive index and said glass having negligible attenuation at wavelengths longer than about 400 nm and being essentially free of metallic silver.

12. (*Original*) The borosilicate glass according to claim 11, wherein the batch comprises, in cation percent, 15-60 SiO₂, 10-30 Al₂O₃, 10-45 B₂O₃, and 8-25 Ag₂O.

13. (*Original*) The borosilicate glass of claim 11, further characterized by being essentially colorless.

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Cont 14. (*Original*) The borosilicate glass according to claim 11, wherein the cation concentration of Ag is between 12.5 cation percent and 25 cation percent.

15. (*Original*) The borosilicate glass according to claim 14 wherein the cation concentration of Ag is less than or equal to the concentration of Al.

16. (*Original*) The borosilicate glass according to claim 11, wherein the SiO₂ concentration is between 20 cation percent and 45 cation percent.

17. (*Original*) The borosilicate glass according to claim 11, wherein the concentration of B₂O₃ is between 15 cation percent and 30 cation percent.

18. (*Original*) The borosilicate glass according to claim 11, wherein the cation concentration of Ag is in the range of 12.5 to 25 cation %, the cation concentration of Al is equal to the cation concentration of Ag, and the concentration of SiO₂ is in the range of 20 to 40 cation %.

19. (*Original*) The borosilicate glass according to claim 11, characterized in that the Ag ions can be replaced by less polarizable monovalent ions by the process of ion exchange.

20. (*Withdrawn*) A method of making an alkali-free, high-silver, borosilicate glass by:

- a) mixing a batch that is essentially free of polyvalent ions, free of alkali or alkaline earth ions and containing at least as many high field strength ions as it does silver atoms; and
- b) melting the batch for a time sufficiently long to produce a homogeneous glass.

21. (*Withdrawn*) The method according to claim 20, wherein the batch is melted at a temperature between 1350°C and 1500°C for a period of time between six hours and seventy two hours.

22. (*Original*) A lens comprising the glass according to claim 1.

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Cont 23. (*Original*) A gradient index lens formed by subjecting the glass of claim 10 to an ion-exchange process.

24. (*Withdrawn*) A method of making a high-silver, borosilicate glass by:

- a) mixing a batch that is essentially free of polyvalent ions, and comprising at least 2 cation percent alkali;
- b) working the batch to produce a finely divided intimately mixed batch;
- c) melting the glass at a temperature not exceeding 1500°C for at least four and preferably sixteen hours to produce a homogeneous melt.

25. (*Withdrawn*) The method according to claim 25 wherein working the batch involving ball milling to produce a finely divided intimately mixed batch wherein the particles exhibit a mean particle size of about 12 μm mps with substantially all of the particles exhibiting a particle size of less than 40 μm .

26. (*Withdrawn*) The method according to claim 25 wherein the ball milling involves maintaining a high media to batch ratio of 15:1.
